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HAMMERMILL PAPER COMPANY

AREA CODE 814 • 456-8811

ERIE • PENNSYLVANIA • 16512

April 11, 1972

Mr. Carlyle W. Westlund
Ground Water Section
Division of Water Quality
Department of Environmental Resources
P. O. Box 2351
Harrisburg, Pennsylvania 17105

Dear Mr. Westlund:

A good bit of the information you requested in your letter of January 28, 1972 to Mr. R. J Crowe is already on file with various offices of the Department of Environmental Resources.

To provide continuity, I shall discuss each item in your letter in the same order.

1 a. Location plat - attached

1 b. Well drilling and completion chronology - attached

1 c. Geophysical logs - We do not have extra copies of these and because of their nature, we cannot make copies. However, one set was sent to the Secretary of Oil and Gas conservation and one set to the Pennsylvania Geologic Survey.

1 d. Well sample analyses - Same as 1 c.

1 e. Core analyses - Attached is core analysis for well #2.

1 f. Surface equipment - Well #1 had two injection pumps, each capable of 194 gpm @ 1590 psi. Well #2 and #3 were serviced by three pumps which were capable of 227 gpm each @ 1590 psi.

2 a. Fluid disposal operation chronology - Well #1 was put in operation in August 1964, Well #2 in July 1965 and Well #3 in September 1968. Well #2 was taken out of service in September 1968. Wells #1 and #3 were taken out of service in July 1971. Total amount of liquor injected was:

#1	446,422,700 gal.
#2	297,872,300 gal.
#3	353,670,700 gal.
Total	1,097,965,700 gal.

Our year is broken up into four-week periods and regular period reports showing the amounts of liquor injected have been sent to the Regional Sanitary Engineer Humane Services Region VI
996 South Main Street
Meadville, Pennsylvania 16335

2 b. Analysis of injected liquor -

Specific gravity	1.02
pH	5.3
alkalinity to pH 4.5	1500 mg/l as $CaCO_3$
acidity to pH 8.3	1900 mg/l as $CaCO_3$
Suspended solids	225 mg/l
NH_3	Nil
Total dissolved solids	5%
Hardness total as $CaCO_3$	200
Ca as $CaCO_3$	80
Mg as $CaCO_3$	100
Total Sulfate	1.75%
CL^-	270 mg/l

2 c. Disposal Pressures - Well #1 showed a steady pressure while operating of 1150 psi. Both #2 and #3 wells had pressures of 1250 psi. These were all surface injection pressures.

3 a. Subsurface failures - The injection tubing in Wells #1 and #2 failed from corrosion by the injected liquor. The tubing in well #1 was replaced by reinforced fiber glass cemented clear to the surface. Well #2 was cleaned out and then we injected cement into it and drilled to a depth of 900 ft. At this point it was decided to let the well stand uncompleted.

3 b. Surface equipment failures - The main shut-off valves on Wells #2 and #3 were of improper metallurgy and had to be replaced. There were no other significant failures other than normal repairs to injection pumps.

4. Proposed plugging procedures - After the necessary permit for plugging the wells is received from the Oil and Gas Division we propose to pump the wells full of cement back to the surface and then remove the Christmas trees. When the temporary plugging of #2 well was contemplated, Dow Chemical Company did some analyses of our liquor and various cements and recommended we use Class A cement and Litepoz 3 extender plus 2% Bentonite. This gives a slurry yield of 1.26 cu. ft/sack and a weight of 14.2 lbs./gals. We will use this same formulation on all three wells.

5. Permanent marking - We will be guided by whatever recommendations you make.

We hope this will answer all your questions to your satisfaction. In addition, when the wells are plugged, if you wish to be present, please let us know and we will make the necessary arrangements.

Very truly yours,

HAMMERMILL PAPER COMPANY

T. O. Andrews

T. O. Andrews
Chief Project Engineer

TOA/acr

ANALYSIS OF BASS ISLAND BRINE

Specific Gravity at 25° C	1.2045
Dissolved Solids	22.9085 % by wt.
Sodium	17.20
Calcium	13.70
Magnesium	3.40
Potassium	1.60
Chloride	64.10
	100.00%

DOW INDUSTRIAL SERVICE